

Amendments to the Specification

Please replace the paragraph beginning on page 13, line 6 with the following amended paragraph:

Fig. 1 is a drawing depicting a prior art ~~of an~~ optical network system;

Please replace the paragraph beginning on page 14, line 21 with the following amended paragraph:

Fig. 3 shows an embodiment of the optical network system in accordance with the present invention. As Fig. 3 shows, this optical network system comprises node ~~device~~ devices 2 to which one or more terminals 1 are connected, and optical fibers 3 which interconnect these node ~~devices~~ devices 2. Although Fig. 3 shows the case when the optical network is created in a net configuration, the optical network can also be created in a loop or other configuration.

Please replace the paragraph beginning on page 15, line 3 with the following amended paragraph:

In this optical network system, ~~the node device~~ devices in accordance with embodiments to be discussed later are used for the node device 2. The node device 2

comprises three functional parts: a router 2A, a node control function part 2B for controlling the operation of the node device in general, and an optical cross-connect 2C.

Please replace the paragraph beginning on page 20, line 1 with the following amended paragraph:

If a new optical path is set in this way, the node device 10 can merely add packets to this cut-through path F when packets are sent from this node device 10 to a router of a node device beyond the node device 30. And, only when the packet capacity of the optical path F is insufficient, packets can be added to the optical path E of the node device 20, that is, the optical path dropped in the node device 20. As this example shows, if the optical path ~~E~~ F, which omits the IP layer processing in the node device 20, is set between the node devices 10 and 30 and the packet is added to this optical path ~~E~~ F, then processing which the router of the node device 20 executes for relaying the packet to another node device, that is load, can be decreased.

Please replace the paragraph beginning on page 21, line 9 with the following amended paragraph:

The connection information response function part 2B3 inquires of a node device adjacent to a node device (hereinafter present node device), which the node

control device controls, hereafter ~~present node device~~ about connection information on the present node device and connection information on the node device adjacent to the present node device each time a predetermined time elapses or a predetermined event is generated, and responds with the connection information on the present node device and the connection information on the node device adjacent to the present node device when the inquiry is received from the node device adjacent to the present node device.

Please replace the paragraph beginning on page 22, line 23 with the following amended paragraph:

Next the optical path setting operation by the node device having the above mentioned functional configuration will be described. Fig. 4 and Fig. 5 show a process where an optical path for cut through is set in the optical network. In Fig. 4 and Fig. 5, it is assumed that the first and fourth node devices 21, 22, 23, 24 (~~shown as node device (1) - (4)~~) in Fig. 4 and Fig. 5) are disposed in the optical network, and one terminal (shown as terminals 1 - 4 in Fig. 4 and Fig. 5) is connected to each of the node devices.

Please replace the paragraph beginning on page 23, line 5 with the following amended paragraph:

In the first state (Fig. 4 (A)), each node device 2 (21, 22, 23, 24) is connected to ~~each other~~ an adjacent node device via ~~the~~ an optical fiber 3, but the respective function, performance and optical path status is unknown to each other. In this state, each node device 2 executes processing by the above mentioned connection information response function part 2B3, and starts collecting information on the adjacent node device to which it is directly coupled by an optical fiber 3 (Fig. 4 (B)). In other words, each node device transmits information on the present node device to the adjacent node device. By this, the node device 21, for example, obtains information on the adjacent node device 22 and the adjacent node device 23. In the same way, the node device 22 obtains information on the adjacent node device 21 and adjacent node device 24.

Please replace the paragraph beginning on page 23, line 17 with the following amended paragraph:

When such a transfer of information ends, each node device 2 transmits information to non-adjacent ~~(which the node device 22 has) to another node devices to which it is indirectly coupled through another node device~~ device adjacent to this node device (Fig.4(C)). Since each node device 21, 22, 23, 24 has information which is transferred from the adjacent node device in the above transfer, one node device receives information on its adjacent node device and also the device adjacent to that adjacent node

device. In the case of the node device 21 (~~node device (1)~~), for example, the information on the node device 24 (~~node device (4)~~) which the node device 22 (~~node device (2)~~) has can be obtained. By executing this process periodically, each node device 2 (21, 22, 23, 24) can obtain the information on the entire optical network.

Please replace the paragraph beginning on page 36, line 14 with the following amended paragraph:

Next the ~~eight~~ sixth embodiment will be described with reference to Fig. 10. The above mentioned fifth embodiment is a configuration example based on a technical concept only to insure an information channel. Whereas in the present embodiment, which is a node device which sets a dedicated optical path in advance for an information channel, that is, allocates a certain optical wavelength dedicated to an information channel, so as to insure releasing the setting of the cut-through optical path, will be described.